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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,595	10/22/2001	Manabu Sasamoto	501.40474X00	3782

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ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER	
HENNING, MATTHEW T	

ART UNIT	PAPER NUMBER
2131	

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/913,595	SASAMOTO ET AL.	
	Examiner	Art Unit	
	Matthew T. Henning	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

This action is in response to the communication filed on 5/9/2005.

DETAILED ACTION

Claims 1-18 have been examined and 19-46 have been cancelled.

All objections and rejections not set forth below have been withdrawn.

Title

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: *Digital Signal Recorder With Selective Encryption and Key Generation.*

Priority

This application is a 371 of PCT/JP99/00929 02/26/1999

The application has been filed under Title 35 U.S.C §371, claiming priority to PCT/JP99/00929, filed February 26, 1999.

The effective filing date for the subject matter defined in the pending claims in this application is 02/26/1999.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 8/26/2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Drawings

The drawings filed on 12/26/2001 are acceptable for examination proceedings.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibaraki et al. (US Patent Number 5,546,461) hereinafter referred to as Ibaraki, further in view of Wonfor et al. (US Patent Number 6,381,747) hereinafter referred to as Wonfor, and further in view of Kulinets (US Patent Number 6,005,940).

Regarding claim 1, Ibaraki disclosed a digital signal recorder for recording a digital signal on a recording medium (See Ibaraki Abstract), comprising: key information generation unit to generate at least one item of key information (seed) (See Ibaraki Fig. 10 Element 102 and Col. 19 Lines 7-14); key generation means which receive said key information and performs a prescribed arithmetic operation thereon to generate a key (PN signal)(See Ibaraki Fig. 10 Element 103 and Col. 19 Lines 14-22); an encryption circuit which receives said key and said digital signal and encrypts said digital signal with said key and outputs the resulting encrypted digital signal (See Ibaraki Col. 19 Line 23 – Col. 20 Line 20) in a case where said digital signal needs encryption (See Ibaraki Col. 14 Lines 29-35); and a recording circuit which records said encrypted digital signal in a case where said digital signal needs encryption (See Ibaraki Col. 20 Lines 11-20), and records said digital signal without encryption in a case where said digital

signal needs no copy protection (See Ibaraki Col. 20 Lines 11-20 and Fig. 9) but Ibaraki failed to disclose encrypting only when the digital signal needed copy protection.

Wonfor teaches that not all data needs to be copy protected and teaches a system that turns off copy protection when it is not needed (See Wonfor Col. 2 Line 66 – Col. 3 Line 7 and Col. 12 Table 2).

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Wonfor in the copy protection system of Ibaraki by only scrambling the data that needed copy protection and not scrambling the data that didn't need copy protection. This would have been obvious because the ordinary person would have been motivated to prevent unnecessary processing to copy protect data that did not need it.

Ibaraki further failed to disclose recording the seed with the encrypted data.

Kulinets teaches that in order to frustrate the manufacture of illicit copies of a data medium the data should be encrypted with a unique key generated from key information, and the key information should be recorded with the encrypted data on the medium (See Kulinets Col. 2 Lines 6-24).

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Kulinets in the copy protection system of Ibaraki and Wonfor by storing the seed with the encrypted data on the recording medium. This would have been obvious because the ordinary person skilled in the art would have been motivated to frustrate the manufacture of illicit copies of the recording medium.

Regarding claim 2, the combination of Ibaraki, Wonfor, and Kulinets disclosed that said digital signal has a packet format of a prescribed length (See Ibaraki Col. 14 Lines 20-28).

Regarding claim 3, the combination of Ibaraki, Wonfor, and Kulinets disclosed that the key information generation unit has a function for updating at least one item of said key information at a prescribed time interval (See Ibaraki Col. 18 Lines 23-25); and said recording circuit has a function for recording information capable of identifying timing where said key information generation unit updates said key information (See Ibaraki Col. 19 Lines 7-27).

Regarding claim 4, the combination of Ibaraki, Wonfor, and Kulinets disclosed that the said digital signal has a packet format of a prescribed length ((See Ibaraki Col. 14 Lines 20-28); and said recording circuit has a function for adding information capable of identifying timing where said key information generation unit updates said key information, and where such information is added to packets of said digital signal and recording on said recording medium (See Ibaraki Col. 19 Lines 7-22 and the rejection of claim 1 above wherein the seeds were record on the medium with the encrypted data).

Regarding claim 5, the combination of Ibaraki, Wonfor, and Kulinets disclosed that said encryption circuit has a function capable of selecting between a function for encrypting and outputting said digital signal and a function for outputting said digital signal as is without encryption (See the rejection of claim 1 above); said recording circuit has a function for recording, in a prescribed area on said recording medium, encryption flag information indicating whether or not said digital signal is encrypted, and when not encrypted, not recording said key information (See Wonfor Col. 8 Lines 17-23 and Table 2).

Regarding claim 6, the combination of Ibaraki, Wonfor, and Kulinets disclosed that said digital signal has a packet format of a prescribed length (See rejection of claim 2 above); and said recording circuit has a function for adding encryption flag information indicating whether or

not said digital signal is encrypted, to packets of said digital signal, and a function for recording on said recording medium (See Wonfor Col. 8 Lines 17-23 and Ibaraki Col. 14 Lines 20-35).

Claims 7-12, and 14-17, are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ibaraki, Wonfor, and Kulinets as applied to claim 1 above, and further in view of Kim (US Patent Number 6,466,733).

Regarding claim 7, the combination of Ibaraki, Wonfor, and Kulinets disclosed a digital signal recorder in which a digital signal of a packet format of a prescribed length is input comprising: key information generation unit to generate at least one item of key information; key generation unit to receive said key information and perform a prescribed arithmetic operation to generate a key; an encryption circuit which receives said key and said digital signal, encrypts said digital signal with said key and outputs the resulting encrypted digital signal in a case where said digital signal needs copy protection; and a recording circuit which records at least one of said at least on item of key information, together with said encrypted digital signal in a case where said digital signal needs copy protection, and records said digital signal without encryption in a case where said digital signal needs no copy protection (See rejection of claims 1-2 above), but failed to disclose dividing the signal into other prescribed lengths; a synchronization signal, recording information signal, auxiliary information signal, and first error correction code are added thereto to define a block format; one track is formed by a prescribed number of blocks thus made; a second error correction code is added in units of n tracks (where n is an integer 1 or greater); said second error correction code is also divided and said first error correction code is added thereto to constitute a block format; and said tracks are recorded on said

recording medium. However, Ibaraki, Wonfor, and Kulinets did disclose recording from video packets (See Ibaraki Col. 14 Lines 20-35 and Abstract).

Kim teaches a method for recording a digital transport stream by creating tracks from MPEG packets and providing three error correction codes to track (See Kim Figs. 2, 3, and 5 and Col. 6 Paragraphs 4-7 and Col. 7 Paragraphs 3-4),

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Kim in the recorder of Ibaraki, Wonfor, and Kulinets by storing the encrypted packets in the ECC block format of Kim. This would have been obvious because the ordinary person skilled in the art would have been motivated to protect the stored programs against errors.

Regarding claim 8, see the rejection of claim 1 above wherein it would have been obvious to store the seed in an auxiliary storage area because the seed is auxiliary data.

Regarding claim 9, see the rejection of claim 3 above.

Regarding claim 10, Kim disclosed that timing information was included in the stored block data (see Kim Col. 5 Paragraph 6).

Regarding claim 11, Kim disclosed that timing information was stored in an auxiliary section (See Kim Col. 6 Paragraph 4 and Col. 7 Paragraph 3).

Regarding claim 12, Kim disclosed adding timing information to the blocks identifying the timing of the packets (See Kim Col. 2 Lines 54-57)

Regarding claim 13, Ibaraki disclosed that the seed was updated every frame and there was at least one frame per track (See Ibaraki Col. 19 Lines 7-8). Therefore, the seed was updated for every track.

Regarding claim 14, see the rejection of claim 7 above.

Regarding claim 15-17, see the rejection of claims 5-6 above.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ibaraki, Wonfor, Kulinets and Kim, as applied to claim14 above, and further in view of Yuval et al. (US Patent Number 5,586,186) hereinafter referred to as Yuval.

The combination of Ibaraki, Wonfor, Kulinets and Kim disclosed encrypting certain data and not other data, (See the rejection of claim 1 above), but failed to disclose switching to determine whether or not to encrypt every n tracks.

Yuval teaches that for efficiency, only every nth track should be encrypted (See Yuval Col. 6 Lines 13-23).

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Yuval in the copy protection system of Ibaraki, Wonfor, Kulinets and Kim by encrypting every nth track. This would have been obvious because the ordinary person skilled in the art would have been motivated to make the copy protection system more efficient in both the encryption and decryption.

Response to Arguments

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Claims 1-18 have been rejected.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okada et al. (US Patent Number 4,635,113) disclosed a system for descrambling television signals including sending a key id with the signal.

Yanagihara (US Patent Number 5,835,668) disclosed a system for recording a scrambled signal.

Ishibashi (US Patent Number 6,021,199) disclosed a system for encrypting an MPEG-2 stream, or recording.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew T. Henning whose telephone number is (571) 272-3790. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Henning
Assistant Examiner
Art Unit 2131
7/12/2005

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100